

Claims:

1. A communication network for collecting and communicating data, comprising:  
a wireless access device comprising a control circuit and a first RF transceiver  
that selectively operates in one of a plurality of spread spectrum modes;  
at least one mobile terminal comprising a second RF transceiver that operates in  
5 at least one of a plurality of spread spectrum modes; and  
the control circuit responsive to transmissions received from the first RF  
transceiver for evaluating communication performance and dynamically selecting one of the  
plurality of spread spectrum modes of the first RF transceiver while taking into consideration  
the at least one of the plurality of spread spectrum modes of the second RF transceiver.
2. The communication network of claim 1 wherein the plurality of spread  
spectrum modes of the first RF transceiver comprising a direct sequence transmission mode  
and a frequency hopping mode.
3. The communication network of claim 1 wherein the plurality of spread  
spectrum modes of the first RF transceiver comprising a direct sequence transmission mode  
and a channelized direct sequence mode.
4. The communication network of claim 1 wherein the plurality of spread  
spectrum modes of the first RF transceiver comprising a frequency hopping mode and a hybrid  
frequency hopping mode.

5. The communication network of claim 1 wherein said first RF transceiver operates to support a communication channel and a busy / control channel on a time shared basis.

6. In a communication network, a plurality of wireless access device capable of communicating with a plurality of wireless terminals, each of the plurality of wireless access device comprising:

a first radio controllable to support a communication channel operating pursuant  
5 to one of a plurality of modes;

a second radio supporting a busy / control channel independent of the communication channel;

a controller that selects one of the plurality of modes and controls the first radio to support the selection; and

10 the controller utilizes the second radio to communicate on the busy / control channel to manage the communication channel.

7. In the communication network of claim 6, wherein the plurality of modes includes a plurality of spread spectrum modes.

8. In the communication network of claim 7, wherein the first radio comprises a multimode radio and the second radio comprises a transmitter.

9. In a communication network, a plurality of wireless access device capable of communicating with a plurality of wireless terminals, each of the plurality of wireless access device comprising:

5 a transceiver controllable to operate pursuant to any of a plurality of communication modes;

a controller that selects from the plurality of modes a communication channel and an independent, busy / control channel; and

10 the controller controls the transceiver to support data routing on the communication channel while managing access to the communication channel via the busy / control channel.

10. In the communication network of claim 9, wherein the plurality of communication modes includes a plurality of spread spectrum modes.